IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Appellant:	Beyer et al.	Patent Application	
Serial No.:	09/853,961	Group Art Unit:	3688
Filed:	May 10, 2001	Examiner:	Champagne, Donald

For: METHOD AND SYSTEM FOR DETERMINISTIC SAMPLING WITH A SPECIFIC DISTRIBUTION

Amended Appeal Brief

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Real Party in Interest

The assignee of the present invention is Hewlett-Packard Company.

Related Appeals and Interferences

There are no related appeals or interferences known to the Appellant.

Status of Claims

Claims 11-19 have been cancelled. Claims 1-10 and 20-30 remain pending. Claims 1-10 and 20-30 have been rejected. This appeal involves Claims 1-10 and 20-30.

Status of Amendments

All proposed amendments have been entered. An amendment subsequent to the Final Action has not been filed.

Summary of Claimed Subject Matter

Independent Claim 1 a pertains to "A method of task selection," which is described at least at page 9 line 1 through the 1st paragraph on page 11. "Determining a specified distribution of a plurality of tasks (task-1 430, task-2 432, task-3 434…task-n 436)," is described at least at page 22 third paragraph; last sentence of page 22 through last sentence of page 23; last paragraph on page 10; second paragraph on page 22; second paragraph on page 2; and Figure 4. "Assuming a first event in a sequence of events occurs, each event in said sequence of events triggering execution of one of said plurality of tasks," is described at least at the third paragraph on page 25; and page 24 lines 1-18. "Determining a plurality of hypothetical distributions of said plurality of tasks for each task hypothetically selected for execution from said plurality of tasks," is described at least at the last paragraph on page 10; page 11 lines 1-14; 630, Figure 6; and page 24 lines 1-18. "Selecting a first task for execution from said plurality of tasks, which when selected provides a corresponding hypothetical distribution of said plurality of tasks that is closest to said specified distribution of said plurality of tasks for implementation of said specified distribution," is described at least at the last paragraph on page 10; page 24 lines 1-18; page 11 lines 1-14; and 660, Figure 6.

Independent Claim 20 recites, "A computer system," which is described at least at page 9 line 1 through the 1st paragraph on page 11. "Determining a specified distribution of a plurality of tasks (task-1 430, task-2 432, task-3 434…task-n 436)," is described at least at page 22 third paragraph; last sentence

of page 22 through last sentence of page 23; last paragraph on page 10; second paragraph on page 22; second paragraph on page 2; and Figure 4. "Assuming a first event in a sequence of events occurs, each event in said sequence of events triggering execution of one of said plurality of tasks," is described at least at the third paragraph on page 25; and page 24 lines 1-18. "Determining a plurality of hypothetical distributions of said plurality of tasks for each task hypothetically selected for execution from said plurality of tasks," is described at least at the last paragraph on page 10; page 11 lines 1-14; 630, Figure 6; and page 24 lines 1-18. "Selecting a first task for execution from said plurality of tasks, which when selected provides a corresponding hypothetical distribution of said plurality of tasks that is closest to said specified distribution of said plurality of tasks for implementation of said specified distribution," is described at least at the last paragraph on page 10; page 24 lines 1-18; page 11 lines 1-14; and 660, Figure 6.

Grounds of Rejection to be Reviewed on Appeal

1. In paragraph 3 of the Final Office Action, Claims 1-10 and 20-30 are rejected under 35 U.S.C. §102(e) as being anticipated by U.S. patent no. 6,286,005 by Cannon (referred to hereinafter as "Cannon").

Arguments

1. Whether Claims 1-10 and 20-30 are anticipated by Cannon (6,286,005) under 35 U.S.C. 102(e).

A. Scope and Content of the Cited Art (Cannon)

This section describes Appellants' understanding of what Cannon teaches. Cannon teaches the selection of one of a plurality of possible advertising time spots. In the example provided in Cannon, a current advertising plan includes three time spots for presenting a single advertisement: spot A, spot B, and spot C. Cannon selects from spots D, E, F, and G for inclusion within the advertising plan. (See col. 39, lines 2-8 and col. 41, lines 54-58 of Cannon).

Cannon utilizes a history of viewing data for a sample group to determine selection of one of the possible plurality of time spots (e.g., spots D, E, F, or G) for inclusion within the advertising schedule. Once one of the time spots (e.g., spots D, E, F, or G) is selected, the remaining possible time spots are never selected. That is, Cannon teaches the selection of one spot in a plurality of possible time spots. As such, Cannon teaches a history of viewing events that is used to select from one of a plurality of possible time spots (e.g., spots D, E, F, and G).

Cannon determines scores for multiple pluralities of possible tasks. That is, Cannon provides a score for the following four advertising schedules: spots A,

B, C, and D; spots A, B, C, and E; spots A, B, C, and F; and spots A, B, C, and G.

Cannon selects a time spot from a plurality of possible time spots (e.g., spots D, E, F, and G). That is, Cannon selects one combination of time spots from the multiple combinations of time spots (e.g., combination of spots A, B, C, and D; combination of spots A, B, C, and E; combination of spots A, B, C, and F; and combination of spots A, B, C, and G). The selected combination provides the highest score that more efficiently matches the predetermined media objectives. (See col. 41, lines 54-63 of Cannon).

B. Differences Between the Cited Art and the Claimed Invention.

This section describes Appellants' understanding of at least some of the differences between embodiments of the instant application and Cannon. Claims 1 and 20 set forth a method of task selection and a system for implementing the same, comprising:

> determining a specified distribution of a plurality of tasks;
> assuming a first event in a sequence of events occurs, each event in said sequence of events triggering execution of one of said plurality of tasks;
> determining a plurality of hypothetical distributions of said plurality of tasks for each task hypothetically selected for execution from said plurality of tasks;
> selecting a first task for execution from said plurality of tasks, which when selected provides a corresponding hypothetical distribution of said plurality of tasks that is closest to said specified distribution of said plurality of tasks for implementation of said specified distribution.

Embodiments of the present invention pertain to methods of deterministic sampling with a specific distribution and a system for implementing the same. Specifically, in embodiments of the present invention a task, or advertising promotion, is selected that gives a distribution of a plurality of tasks, or advertising promotions, that is closest to a specified distribution of the plurality of tasks, or advertising promotions. That is, embodiments of the present invention are implemented to achieve the specific distribution of the plurality of tasks, or advertising promotions.

Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed in invention, arranged as in the claim (Lindemann Maschinefabrik GmbH v. American Hoist & Derrick Co., 221 USPQ 481, 485 (Fed. Cir. 1984). Because, at a minimum, Cannon fails to teach the determination of a plurality of tasks, and the execution of the plurality of tasks in response to events, Cannon fails to disclose each and every element of Claims 1 and 20, as arranged in the claims, and as such, the rejection under 35 U.S.C. §102(e) is improper and should be reversed. Therefore Claims 1 and 20 are in a position for allowance.

Specifically, independent Claims 1 and 20 each disclose that a specified distribution of a plurality of tasks is determined. That is, for a plurality of tasks (e.g., L, M, N, and O), a distribution of the plurality of tasks is determined. For example, if the plurality of tasks is advertisements, the specified distribution

describes the overall presentation of the advertisements to a specific group of customers.

On the other hand, Cannon does not disclose a specified distribution of a plurality of tasks. Instead, Cannon teaches a method for selecting an additional spot for inclusion within an advertising schedule. Specifically, Cannon teaches the selection of one of a plurality of possible advertising time spot. In the example provided in Cannon, a current advertising plan includes three time spots for presenting a single advertisement: spot A, spot B, and spot C. Cannon selects from spots D, E, F, and G for inclusion within the advertising plan. (See col. 39, lines 2-8 and col. 41, lines 54-58 of Cannon).

Further, independent Claims 1 and 20 each disclose that an event in a sequence of events is assumed to occur in order to determine which of the tasks is selected. Each event triggers execution of one of the plurality of tasks. The events as disclosed in the present embodiments describe single actions that trigger execution of one of the plurality of tasks (e.g., L, M, N, or O). For example, when a customer visits a web site as an event, the present embodiments of independent Claims 1 and 20 are able to determine which task (e.g., L, M, N, or O), or advertisement, is selected to present to the customer.

On the other hand, Cannon does not disclose the assumption of a single event in a sequence of events, wherein each event in the sequence triggers execution of one of the plurality of tasks, as in the present invention. Instead,

Cannon utilizes a history of viewing data for a sample group to determine selection of one of the possible plurality of time spots (e.g., spots D, E, F, or G) for inclusion within the advertising schedule. Once one of the time spots (e.g., spots D, E, F, or G) is selected, the remaining possible time spots are never selected. That is, Cannon teaches the selection of one spot in a plurality of possible time spots. As such, Cannon teaches a history of viewing events that is used to select from one of a plurality of possible time spots (e.g., spots D, E, F, and G), but does not teach the assumption of an event in a sequence of events that triggers execution of one of a plurality of tasks, as is disclosed in independent Claims 1 and 20.

Moreover, independent Claims 1 and 20 each disclose that a plurality of hypothetical distributions of the plurality of tasks is determined for each task that is hypothetically selected. That is, for each task L, M, N, or O that is selected in response to an event, a new and hypothetical distribution of the singular and unvarying plurality of tasks (L, M, N, or O) is determined.

On the other hand, Cannon does not calculate a hypothetical distribution of the execution of the plurality of tasks. Cannon teaches a scoring for each alternative spot (spots D, E, F, or G) using five indices that are considered in the advertising optimization process. However, embodiments of the present invention are distinguishable from Cannon in that the scoring is determined from a singular plurality of tasks, and not from a multiple plurality of possible tasks. Specifically, embodiments of the present invention determine a hypothetical

distribution from an unvarying, singular plurality of tasks (e.g., L, M, N, and O), whereas, Cannon determines scores for multiple plurality of possible tasks. That is, Cannon provides a score for the following four advertising schedules: spots A, B, C, and D; spots A, B, C, and E; spots A, B, C, and F; and spots A, B, C, and G. As such, Cannon does not teach the determination of a plurality of hypothetical distributions of the singular and unvarying plurality of tasks, as is recited in independent Claims 1 and 20 of the present invention.

In addition, independent Claims 1 and 20 each disclose that a task from the plurality of tasks (e.g., L, M, N, and O) is selected for execution in response to an event. The task that is selected provides a corresponding hypothetical distribution of the singular and unvarying plurality of tasks that is closest to the previously determined specified distribution of the plurality of tasks. That is, a task is selected that would provide the closest distribution of the plurality of tasks, should that task be selected, to the specified distribution.

On the other hand, Cannon does not disclose the selection of a task from a singular and unvarying plurality of tasks used to determine a specified distribution, as is recited in independent Claims 1 and 20. Instead, Cannon selects a time spot from a plurality of possible time spots (e.g., spots D, E, F, and G). That is, Cannon selects one combination of time spots from multiple combinations of time spots (e.g., combination of spots A, B, C, and D; combination of spots A, B, C, and E; combination of spots A, B, C, and F; and

combination of spots A, B, C, and G). The selected combination provides the highest score that more efficiently matches the predetermined media objectives. (See col. 41, lines 54-63 of Cannon).

As such, Cannon selects a spot from possible time spots (e.g., spots D, E, F, or G) for inclusion into an existing advertising schedule (spots A, B, and C). Specifically, Cannon selects one of a plurality of possible combinations of time spots. That is, Cannon selects from one of the combination of spots A, B, C, and D; combination of spots A, B, C, and E; combination of spots A, B, C, and F; and combination of spots A, B, C, and G.

In summary, Appellants do not understand Cannon to teach the embodiments of the present invention since Cannon selects a task from one of a plurality of possible spots (e.g., spots (D, E, F, and G) for inclusion within an existing advertising schedule (spots A, B, and C). Upon selection of one of the plurality of possible spots (e.g., spots D, E, F, and G), the non-selected spots are no longer considered for execution. That is, Cannon selects one of a possible combination of spots (e.g., combination of spots A, B, C, and D; combination of spots A, B, C, and E; combination of spots A, B, C, and F; and combination of spots A, B, C, and G).

Embodiments of the present invention, on the other hand, provide for the selection of a task from a singular and unvarying plurality of tasks (e.g., L, M, N, and O). That is, embodiments of the present invention are used to select a task

for execution from a plurality of specified tasks in response to an event. Once selection of one of the plurality of tasks is made, the non-selected spots can again be considered for execution upon the execution of a later event. The task selection provides a corresponding hypothetical distribution of the singular and unvarying plurality of tasks that is closest to a specified distribution.

For these reasons, Appellants respectfully state that Cannon does not anticipate the features as claimed in independent Claims 1 and 20 and as such the rejection under 35 U.S.C. §102 (e) is improper and should be reversed. In addition, Appellants respectfully submit that Cannon does not anticipate or render obvious the embodiments of the present invention as are recited in Claims 2-10 which depend from independent Claim 1, and Claims 21-30 which depend from independent Claim 20, and that these claims are in condition for allowance as being dependent on an allowable base claim.

Appellants respectfully submit that the Examiner's rejections of the Claims are improper as key limitations needed for proper prima facie rejections of Appellants' Claims are not met by the cited reference as outlined above.

In summary, the Appellants respectfully request that the Board reverse the Examiner's rejections of Claims 1-10 and 20-30.

The Appellants wish to encourage the Examiner or a member of the Board of Patent Appeals to telephone the Appellants' undersigned representative if it is felt that a telephone conference could expedite prosecution.

Respectfully submitted,

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Claims Appendix

1. A method of task selection comprising the steps of:

determining a specified distribution of a plurality of tasks;

assuming a first event in a sequence of events occurs, each event in said sequence of events triggering execution of one of said plurality of tasks;

determining a plurality of hypothetical distributions of said plurality of tasks for each task hypothetically selected for execution from said plurality of tasks; and

selecting a first task for execution from said plurality of tasks, which when selected provides a corresponding hypothetical distribution of said plurality of tasks that is closest to said specified distribution of said plurality of tasks for implementation of said specified distribution.

2. The method as described in Claim 1, wherein said method comprises the further step of performing said first task when said first event in said sequence of events actually occurs.

3. The method as described in Claim 1, wherein said first event is a customer visiting a web site over a communication network, and said sequence of events is a sequence of customers visiting said web site.

4. The method as described in Claim 3, wherein said plurality of tasks is a plurality of advertising promotions that individually, when selected by said method, is offered to each customer in said sequence of customers.

5. The method as described in Claim 1, wherein said plurality of hypothetical distributions is accessed as a plurality of vectors, each of which comprises a plurality of components, said plurality of components associated with said plurality of tasks where each of said plurality of components is associated with a corresponding task in said plurality of tasks, said plurality of components defining the number of times each of said plurality of tasks has been selected within said sequence of events in relation to the sum of all tasks selected within said sequence of events prior to said first event.

6. The method as described in Claim 1, comprising further steps as follows to determine said second distribution:

calculating a mathematical distance between each of said plurality of hypothetical distributions and said specified distribution, creating a plurality of mathematical distances; and

selecting a first mathematical distance from said plurality of mathematical distances that has the least value, said first mathematical distance associated with the selection of said first task in association with said first event.

7. The method as described in Claim 6, wherein said plurality of hypothetical distributions is pre-calculated before said first event occurs.

8. The method as described in Claim 6, wherein each of said plurality of hypothetical distributions is expressed in vector form, said specified distribution is expressed in vector form, and of each said plurality of mathematical distances is a vector norm calculated from the vector difference between each of said plurality of hypothetical distributions and said specified distribution.

9. The method as described in Claim 3, wherein each of said events in said sequence of events is classified within a segment, said segment defining an independent set of characteristics, said segment associated with said plurality of tasks.

10. The method as described in Claim 1, wherein if said first event is the first in said sequence of events, then said first task has the highest proportionate value in said specified distribution of said plurality of tasks.

20. A computer system comprising:

a bus;

a memory unit coupled to said bus; and

a processor coupled to said bus, said processor for executing a method of selection comprising the steps of:

determining a specified distribution of a plurality of tasks;

assuming a first event in a sequence of events occurs, each event in said sequence of events triggering execution of one of said plurality of tasks;

determining a plurality of hypothetical distributions of said plurality of tasks for each task hypothetically selected for execution from said plurality of tasks;

selecting a first task for execution from said plurality of tasks, which when selected provides a corresponding hypothetical distribution of said plurality of tasks that is closest to said specified distribution of said plurality of tasks for implementation of said specified distribution.

21. The computer system as described in Claim 20, wherein said method comprises the further step of performing said first task when said first event in said sequence of events actually occurs.

22. The computer system as described in Claim 20, wherein in said method said first event is a customer visiting a web site over a communication network, and said sequence of events is a sequence of customers visiting said web site.

23. The computer system as described in Claim 22, wherein in said method said plurality of tasks is a plurality of advertising promotions that individually, when selected by said method, is offered to each customer in said sequence of customers.

24. The computer system as described in Claim 20, wherein in said method said plurality of hypothetical distributions is accessed as a plurality of vectors, each of which comprises a plurality of components, said plurality of

components associated with said plurality of tasks where each of said plurality of components is associated with a corresponding task in said plurality of tasks, said plurality of components defining the amount of times each of said plurality of tasks has been selected within said sequence of events in relation to the sum of all tasks selected within said sequence of events prior to said first event.

25. The computer system as described in Claim 20, wherein said method comprises further steps as follows to determine said second distribution:

calculating a mathematical distance between each of said plurality of hypothetical distributions and said specified distribution, creating a plurality of mathematical distances; and

selecting a first mathematical distance from said plurality of mathematical distances that has the least value, said first mathematical distance associated with the selection of said first task in association with said first event and said second distribution.

26. The computer system as described in Claim 25, wherein in said method said plurality of hypothetical distributions is pre-calculated before said first event occurs.

27. The computer system as described in Claim 25, wherein in said method each of said plurality of hypothetical distributions is expressed in vector form, said specified distribution is expressed in vector form, and of each said plurality of mathematical distances is a vector norm calculated from the vector

difference between each of said plurality of hypothetical distributions and said specified distribution.

28. The computer system as described in Claim 20, wherein in said method said objective is to enhance profitability.

29. The computer system as described in Claim 20, wherein in said method if said first event is the first in said sequence of events, then said first task has the highest proportionate value in said specified distribution of said plurality of tasks.

30. The computer system as described in Claim 20, wherein in said method each of said events in said sequence of events is classified within a segment, said segment defining an independent set of characteristics, said segment associated with said plurality of tasks.

Evidence Appendix

None

Related Proceedings Appendix

None